

Name _____

Date _____

Hour _____

Semester 2 Exam Review- Chapters 8 & 9**8.1 Multiplication Properties of Exponents****Simplify.**

1. $(2x^2y)^5 \cdot x^6$

2. $[(y + 2)^4]^2$

3. $(-6s^3t)^2 \cdot (9s^2t^4)^3$

4. $(-3xy^2)^3 \cdot (2x^2y)^2$

8.2 Zero and Negative Exponents**Rewrite the expression in simplest form with positive exponents.**

5. $m^{-3} \cdot n^5$

6. $(15r)^0$

7. $\left(\frac{-4x^2}{2x^{-1}}\right)^{-1}$

8. $\frac{1}{4x^{-10}y^{14}}$

8.3 Division Properties of Exponents**Rewrite the expression in simplest form with positive exponents.**

9. $\left(\frac{2x^3y^4}{3xy}\right)^3$

10. $\frac{16x^3y}{-4xy^3} \cdot \frac{2xy}{-x^{-1}}$

11. $\left(\frac{x^3y^2}{8xy}\right)^4 \cdot \frac{16x^5y^{-8}}{x^7y^4}$

8.4 Scientific Notation**Rewrite in decimal notation.**

12. $3.128 \cdot 10^5$

13. $4.63 \cdot 10^{-3}$

14. $6 \cdot 10^4$

8.4 Scientific Notation

Rewrite in scientific notation.

15. 52,314

16. 0.000427

17. 6.75

Evaluate the expression. Write the result in scientific notation.

18. $(4 \cdot 10^{-2}) \cdot (3 \cdot 10^6)$

19. $\frac{1.4 \cdot 10^{-1}}{3.5 \cdot 10^{-4}}$

Pythagorean Theorem

Find the missing side length for each. Round answers to the nearest hundredth if necessary.

20.

21.

9.1 Solving Quadratics by Finding Square Roots

Solve the equation and list all possible solutions or write No Solution.

22. $3m^2 = 867$

23. $7a^2 - 63 = 0$

24. $\frac{4}{5}e^2 + 12 = 5$

9.2 Simplifying Radicals

Simplify each expression.

25. $\sqrt{\frac{25a^4c^9}{16d^5}}$

26. $3\sqrt{12j^6k^2} \cdot 5\sqrt{48jk^3}$

27. $8\sqrt{\frac{20d^3}{35d^5}}$

9.3 Graphing Quadratic Functions

Sketch the graph of each function.

28. $y = x^2 + 4x - 1$

x	y

29. $y = -2x^2 - 1$

x	y

9.5 Solving Quadratic Equations using the Quadratic Equation

Solve each using the Quadratic Formula.

30. $y = -x^2 + 2x - 1$

31. $y = -5x^2 + 5x + 5$

9.6 Applications of the Discriminant









Use the discriminant to tell if the equation has two solutions, one solution or no solutions.

32. $6x^2 - 2x + 4 = 0$

33. $-3x^2 + 5x - 1 = 0$

34. $3x^2 - 6x + 3 = 0$

FOR ADDITIONAL CHAPTERS 8 & 9 REVIEW PLEASE REFER TO ANY OR ALL OF THE FOLLOWING:

-  Your classroom notes and examples
-  Corresponding book sections
-  Chapter 8 Review on pages 494 - 496
-  Chapter 8 Test on page 497
-  Chapter 8 Extra Practice Problems on page 804
-  Chapter 9 Review on pages 562 - 564
-  Chapter 9 Test on page 565
-  Chapter 9 Extra Practice Problems on page 805

STUDENTS CAN CHECK ANSWERS IN THE BACK OF THE BOOK. IF ANSWERS ARE NOT AVAILABLE IN THE BACK OF THE BOOK, STUDENTS ARE ENCOURAGED TO USE THE TEACHER BOOK TO CHECK ANSWERS BEFORE TAKING THE SEMESTER EXAM.